

## Natural Hazards

Dunnigan is located on relatively flat farm land in the west-central Sacramento Valley; few natural hazards affect the area. However, there are two forms of natural hazards that can affect the town: flooding and seismic (earthquake) activity.

### FLOODING

During periods of heavy rains, saturate soils combined with high water levels in the Sacramento River and Colusa Basin Drainage Canal can slow drainage from the planning area. This sometimes results in backup and overflow of the creek banks near their confluence with the canal.

Other drainage problems include ponding in the Hardwood Subdivision west of I-5 and a smaller area of ponding east of and adjacent to the Southern Pacific Railroad tracks at County Road 4. Bridge locations crossing creeks subject to 100 year storms are also subject to potential flooding where their design prohibits 100 year storm flows. This can cause access problems during periods of heavy rain. There are several such locations along Dunnigan and Buckeye Creeks.

Another potential source of flooding is Lake Shasta in the northern Sacramento Valley. The *Dam Failure Inundation Areas Affecting Yolo County* map, which is part of the County general plan, shows that in the event of dam failure at Shasta Dam, flooding could occur to within about a mile of the east side of Dunnigan.

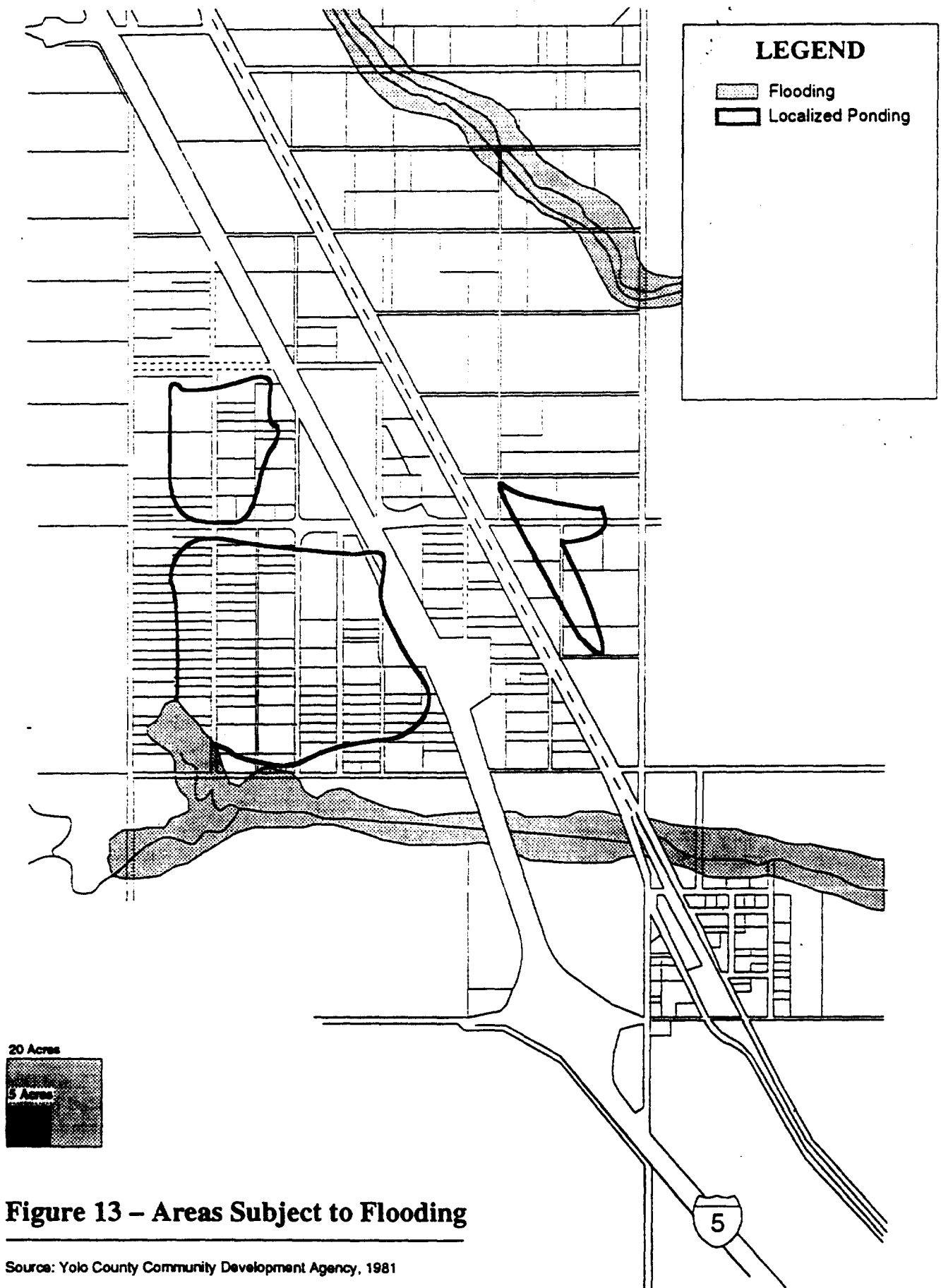
Areas subject to flooding are shown on Figure 13.

### SEISMIC SAFETY

There are two recognized fault zones in Yolo County; the Midland fault zone and the Capay Valley zone. The Midland zone is located between the Town of Winters and the Coast Range in the southwest corner of the county. It includes a number of relatively small faults. The Capay Valley area has two major faults. The Sweitzer fault is located just below the ridge of the Capay Hills paralleling the valley. The Eisner fault is located at the upper end of Capay Valley just below the Sweitzer fault. Other known faults located on the western border of the County occur in the Blue Ridge and Rocky Ridge Hills.

Major faults that may impact Yolo County include the San Andreas Fault Zone along the Pacific Coast and the Bear Mountain and Melones Fault Zones located to the east along the Sierra Nevada mountains.

The Dunnigan Fault was identified in 1987 lying west of the planning area, paralleling the Dunnigan Hills. The age of the most recent activity along this fault has not been verified. Two inferred, or concealed, faults have also been identified by the State Department of Mines and Geology in this area, paralleling I-5, west of the highway.



An 1892 earthquake centered in the area between Vacaville and Winters was assigned a Mercalli scale intensity of IX and caused considerable damage to the town of Winters. The Dunnigan area has the potential to experience an earthquake of Mercalli scale intensity VI magnitude or greater based on projections from historical data and geologic conditions in the area. An earthquake of this magnitude may cause minor damage to weak plaster or unreinforced masonry buildings, but should not cause damage to properly constructed modern buildings.

Earthquakes can cause landsliding, subsidence, ground displacement, ground shaking, and dam and levee failure. The following discusses the likelihood of these in Dunnigan.

*Landsliding.* The Dunnigan Planning Area is relatively flat and would not be affected by landslides from unstable slopes.

*Subsidence.* Subsidence is the settling or sinking of land with little or no horizontal motion. Ground water pumping may cause localized areas to subside, as documented in other parts of the Central Valley but this is not likely given the known soil and ground water conditions in the Dunnigan planning area. No significant areas of subsidence have been reported nor are expected in the Dunnigan area.

*Ground Displacement.* Major earthquakes in California have caused significant surface displacement. Analyses by the State of California have not identified surface displacement hazards in the area.

*Ground Shaking.* The Dunnigan planning area may be subject to ground shaking during an earthquake. Damage to structures caused by an earthquake depends upon distance to the epicenter; earthquake magnitude and duration; soil characteristics; ground water levels; building materials, height and construction technologies. The soil characteristics of the Sacramento Valley, including the Colusa Basin, will transmit shock waves generated by an earthquake. A large magnitude earthquake near the Dunnigan area could create strong ground shaking that could affect local buildings.

Many one and two-story wood structures with good foundations will survive the ground motions generated by even a strong earthquake. The flexibility of the materials and construction methods used allow for some degree of movement without total collapse. Conversely, unreinforced brick or masonry buildings tend to be more rigid and may be hazardous during an earthquake.

*Liquefaction.* Liquefaction occurs in areas when saturated soils exposed to ground shaking become temporarily liquid and cause the soil to lose its ability to support structural loads. Ground saturation in the Dunnigan planning area would not be anticipated except in areas where high ground water has been noted.

*Dam and Levee Failure.* The Dunnigan area may be impacted by failure of the Lake Shasta Dam located in the northern Sacramento Valley. The area of inundation indicated on the *Dam Failure Inundation Areas Effecting Yolo County* map lies within about a mile of the eastern edge of the Dunnigan Planning Area boundary. No other dams or levees located near Dunnigan pose a significant threat.

**NATURAL HAZARD ISSUES**

- *The flat topography and lack of a comprehensive drainage system in the town have resulted in localized flooding from the ponding of water after heavy rains.*

Localized ponding and flooding can be remedied through properly engineered flood control and drainage systems.

- *Dunnigan could be subject to seismic shaking in a large earthquake or nearby faults.*

New construction codes in California have design requirements to withstand medium to large size earthquakes. These codes are likely to be sufficient to protect new structures in the Dunnigan area.

**NATURAL HAZARDS GOAL, POLICIES, AND PROGRAM****Natural Hazards Goal**

To protect the lives and property of the residents of Dunnigan from unnecessary risk due to flooding, earthquakes, and other natural and human-made hazards.

**Natural Hazards Policies**

- D-HZ.1. New development shall be prohibited in areas with sensitive environmental characteristics, or where natural or human-caused hazards pose a significant threat to safety and property.
- D-HZ.2. Any development proposal in the town shall include a drainage plan.
- D-HZ.3. Any project proposed in a flood zone shall provide detailed mitigation plans for the protection of lives and property from flooding, meeting federal flood insurance standards.
- D-HZ.4. The County shall maintain drains and ditches in the public right-of-way.
- D-HZ.5. All property owners shall be encouraged to maintain private creeks and sloughs for the free passage of storm water.
- D-HZ.6. The seismic safety standards contained in the Uniform Building Code shall be enforced.

**Natural Hazards Program**

- 29. If a redevelopment district is formed, a portion of the funds will be used for flood improvements in the existing developed town.

Responsible Agency/Department:	Public Works, Redevelopment Agency
Timeframe:	1992
Funding:	General Fund, Redevelopment Fund
Monitoring:	Public Works

## Public Safety and Emergency Services

### EMERGENCY RESPONSE

Emergency response includes fire, police and ambulance services.

Law enforcement in Dunnigan is provided primarily through the Yolo County Sheriff's Department. Because Interstate 5 passes through the area, the California Highway Patrol also provides limited services to the area. Currently, all calls for services are routed to the central dispatch station in Woodland. From this point, deputies are assigned to respond. Among the typical calls received by the deputies are thefts and burglaries, trespassing, speed limit enforcement, and property owner complaints.

As of July 1992, none of the fire department's 25 volunteer fire fighters is certified as an emergency medical technician (EMT), although some have additional emergency training beyond standard CPR classes, including some training from EMTs at Yolo Ambulance Co. There are no other EMTs in the area.

There are no doctors in Dunnigan; the nearest doctor is in Woodland. The nearest ambulance is also in Woodland. Yolo Ambulance currently provides this service, but they will soon be merging with and using the name of Foothill Ambulance. Non-life threatening calls can take as long as one hour from the initial call to delivering a person via ambulance to the hospital in Woodland. For life threatening emergencies, the fire department or the California Highway Patrol will call Life Flight, a medical-helicopter service based in Sacramento.

See also the Public Facilities chapter.

### HEALTH FACILITIES

There are no medical or other health care services offered in the town of Dunnigan. Health services are generally sought in Woodland or Davis for any complicated or extensive medical treatment.

### SAFETY ISSUES

- *Emergency medical services may need to be expanded, including a first aid facility in new major commercial projects.*

Emergency medical services are limited in Dunnigan. If major commercial complexes are developed attracting hundreds of workers and shoppers, some onsite emergency first aid facility may be required. See policy D.S.14 on page II - 42.

- *The relative isolation of the town has resulted in long response times for ambulance service.*

The Town of Dunnigan has limited medical and other health care services. Health services are generally sought in Woodland or Davis for any complicated or extensive medical treatment. Ambulances dispatched from Woodland can take up to an hour to deliver a Dunnigan area resident to a Woodland hospital. Because of the time lag, many people choose to drive the injured or ill into Woodland rather than rely on an ambulance. For these reasons, emergency medical technicians (EMTs) are needed to serve the Dunnigan area.

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- *Immediate or timely response by the Sheriff's Department is not always possible.*

Because the Sheriff's Department covers all of the unincorporated areas of Yolo County, the time it takes an officer to arrive to an emergency call can vary greatly, depending on proximity of a patrol vehicle. The County should evaluate if a Sheriff's substation is warranted in Dunnigan to serve new development envisioned by this plan.

- *Additional development will necessitate upgrading fire fighting facilities.*

As new development occurs, the Dunnigan Fire District will need to acquire new equipment and facilities. See also page II - 46 for the program that addresses this issue.

## **SAFETY GOALS, POLICIES, AND PROGRAM**

### **Safety Goals**

To provide adequate fire and police protection.

To shorten emergency response times within practical limits of funding and staffing.

To undertake appropriate measure that lessen the possibility and severity of fires.

### **Safety Policies**

- D-PS.1. All proposed development within the jurisdiction of the Dunnigan Fire Protection District shall be reviewed for fire safety standards by the Fire Chief or designee, including the provision of adequate water pressure for fire suppression, and adequate egress and ingress.
- D-PS.2. The installation of smoke detectors shall be encouraged in existing residences constructed prior to the requirement for mandatory installation of such detectors.
- D-PS.3. The County shall require fire-proof roofs on single family dwellings in the Hardwood Subdivision.
- D-PS.4. Homeowners shall be required to annually remove all weeds and hazardous debris from their property.
- D-PS.5. Sheriff department staffing shall be maintained at a level consistent with the officer-to-population ratio established by the Board of Supervisors.

**Safety Program**

30. The Dunnigan Fire Protection District will train and maintain certification for a minimum of 15 emergency medical technicians, until such time as emergency medical facilities are available locally. The Fire Chief will investigate the possibility of receiving state funding for this program. The rationale for the funding is that many of the responses are for accidents along Interstate 5.

Responsible Agency/Department:	Fire Protection District
Timeframe:	1993
Funding:	General Fund
Monitoring:	Fire Protection District

## Noise

Excessive noise is a form of pollution that has measurable adverse effects on human health. This section of the General Plan supplements the Noise Element of the Yolo County General Plan and addresses how noise levels will be minimized to preserve the quiet environment of the town.

Environmental noise is frequently measured in decibels (dB). The A-weighted decibel (dBA) refers to a scale of noise measurement which approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the sound level of normal talking is about 60 to 65 dBA. The Yolo County General Plan sets the upper limit of "clearly acceptable" noise levels for residential areas at 60 dBA.

The primary noise source generators present are I-5 traffic and freight trains moving along the Southern Pacific railroad tracks parallel and east of County Road 99W. The town of Dunnigan contains many residences subject to such noises. There are several other noise-sensitive land uses in the planning area including two mobile home parks, two motels and various enclaves of residential units located a short distance from the freeway. The balance of the planning area is considered agricultural and rural residential on larger parcels of land.

It is Yolo County's policy to review all new developments, public and private, for noise compatibility with surrounding uses to protect the occupants of nearby lands from undesirable noise levels. The County discourages new residential development in areas subject to legal, long term, excessive noise. The County may require noise reduction, avoidance, or mitigation as necessary.

### NOISE ISSUES

- *Noise levels in and around the town are likely to increase as a result of increased urban development and traffic within Dunnigan itself and along Interstate 5 in general.*

Although the Dunnigan area is rural and sparsely settled, Interstate 5 is traveled by numerous large trucks and automobiles. The proximity of homes to the Interstate creates noise issues. As traffic on I-5 increases, there will be increased levels of noise.

- *Uses that are sensitive to noise, such as residential areas and schools, should be protected from excessive noise from traffic.*

The General Plan designates residential areas that are near I-5. As these properties develop, there will be a need to mitigate the impacts of noise on the residences.

- *Residents near the CalTrans rest stop along I-5 have experienced night time noise disturbances from trucks idling at the rest stop and from compressors on refrigerated trucks.*

Because the rest stop is operated by CalTrans, the CSA or other county representative cannot directly influence the use of the property. The County can request that CalTrans implement certain programs based on resident complaints.



**NOISE GOAL, POLICIES, AND PROGRAMS****Goal**

To preserve the quiet, rural setting of the town and protect residents from exposure to excessive noise

**Noise Policies**

- D-N.1. Areas within the town shall be considered noise impacted if exposed to existing or projected noise levels on the exterior of buildings that exceeds 60 dB. New development of commercial, industrial or other noise generating land uses shall not be permitted if resulting noise levels shall exceed 60 dB in areas where residential or other noise-sensitive land uses exist or are planned.
- D-N.2. Noise analysis and mitigation, if deemed necessary, shall be required for new residential projects located near County Road 99W, the freeway and the railroad line.

**Noise Programs**

31. The County will continue to enforce the regulations contained in the Noise Element of the General Plan.

Responsible Agency/Department:	Community Development, Building
Timeframe:	Ongoing
Funding:	General Fund
Monitoring:	Community Development

32. Development standards will be implemented as a way to mitigate the effects of noise on new development.

Responsible Agency/Department:	Community Development, Building
Timeframe:	Ongoing
Funding:	General Fund
Monitoring:	Community Development

33. The County will request that CalTrans relocate the Interstate 5 rest stop to another location away from residential areas. Furthermore, the County will request that CalTrans, until such relocation is effected, install noise mitigations at the existing rest stop. CalTrans should conduct an analysis to determine the most cost effective mitigation techniques. Possibilities include re-striping parking areas; building berms or solid walls between the rest stop and the residences; and prohibiting refrigerated trucks running compressors between certain hours.

Responsible Agency/Department:	Community Development, Building
Timeframe:	Ongoing
Funding:	General Fund
Monitoring:	Community Development

## V. Implementation

The process of implementing or carrying out the goals, policies, and programs of the Dunnigan General Plan will require the completion of a series of steps. Table 4 highlights the key implementation actions. The implementation process will begin with the formal adoption of the plan itself by the Board of Supervisors after the completion and preparation of an environmental impact report (EIR). The EIR will identify the environmental consequences that will likely result if further land use and development occurs in Dunnigan as envisioned by the General Plan. The EIR and its mitigations may require adjustments to the General Plan prior to adoption.

### INTERPRETING THE GENERAL PLAN

The entire text of this document and the General Plan map which accompanies it constitutes the Dunnigan Comprehensive General Plan. Rezoning of parcels to a higher intensity of use consistent with the land use designation on the Plan map will require that an appropriate application be filed with the County Community Development Agency. This will ensure that the proposal can be reviewed and appropriately conditioned so as to carry out the overall purposes and intent of this plan, and to preserve, protect and perpetuate the existing scale, design and small town character of Dunnigan.

The wide range and complexity of subject matter covered by the General Plan is certain to generate questions of interpretation. As questions arise, the County's Community Development Agency should prepare written interpretations for review with the concurrence by the County Planning Commission, Board of Supervisors and other affected bodies (e.g. the School District and LAFCO). These written interpretations will become a body of official opinion and a public record for consistent application of policies and proposals of the plan, and for discussion during annual review and consideration of proposed amendments to the plan.

The word "general" is a key to understanding the nature of policies and programs. It implies overall agreement on major issues without a straight jacket of inflexibility; it implies variation and encourages innovation while working toward the achievement of common goals; and it implies the need for adjustment of policies and proposals as changing conditions may dictate. While not inflexible, neither is the plan to be viewed as totally flexible so as to accommodate whatever position or policy may be sought through interpretation.

A properly administered general plan demands that the rule of "reasonableness" be applied to permit flexibility, variation and adjustment as long as the integrity of basic policies and proposals is maintained. However, any changes that are desired must result from careful study. Such study should be made independent of pending applications for controversial development proposals, temporary fiscal problems and other "matters of the moment". The policies and proposals of the plan are not intended to be interpreted to accommodate special interests, whether public or private. The integrity of the plan must be maintained if it is to be an effective instrument of public policy among units of government, private enterprise and the public-at-large.

## ACHIEVING ZONING CONSISTENCY WITH THE GENERAL PLAN

State Law requires the County's zoning ordinance and zone plan be consistent with policies and proposals of the Dunnigan General Plan. In order to fulfill requirements of law and give the town the types of zoning district and procedural regulations needed, the first priority of the County after adoption of the plan should be to draft a revision of its zone map for the community and any amendments to the ordinance necessary to fully carry out provisions of the revised General Plan.

## ANNEXATIONS TO THE COMMUNITY SERVICES AREA

A major policy of the General Plan is that the County sponsor the annexation of the lands designated for expansion to CSA 11. In order to implement this policy, the County should prepare a program of annexation that addresses all of the criteria and requirements of law that must be evaluated by the Yolo County LAFCO on a comprehensive basis. In reviewing a proposal for annexation, the core factors which LAFCO must consider concern community-wide land use, development and public service policies of the County, and may be summarized as follows:

1. The likelihood of significant growth and its effect on other incorporated and unincorporated territory during the next 10 years.
2. The costs and capability of providing adequate public facilities and the levels of government service required.
3. The effects on adjacent areas, on mutual social and economic interests, and on the local government structure of the County.
4. Conformity with LAFCO policies which seek efficient patterns of urban development, including encouraging the guiding of urbanization away from existing prime agricultural lands and encouraging development of existing vacant or non-prime lands within the existing urban area before allowing development outside the current boundaries of the District.
5. Maintaining the physical and economic integrity of agricultural lands.

## REDEVELOPMENT AND REVITALIZATION

The California Community Redevelopment Law is being used by many counties in California, including Yolo County, in order to accomplish economic development and revitalization. Consideration of redevelopment is a major potential implementation tool for the General Plan.

## IMPLEMENTATION STRATEGY AND ANNUAL REPORT

Amendments to the State Planning and Zoning Law (effective January 1, 1985), require a systematic approach to General Plan implementation. Section 65400 of the Government Code requires the Community Development Agency to investigate and recommend to the Board of Supervisors "...reasonable and practical means for implementing the General Plan or element of the General Plan, so that it will serve as an effective guide for orderly growth and development, preservation and conservation of open space land and natural resources, and the efficient expenditure of public funds relating to the subjects addressed in the General Plan." The law further requires the Board of Supervisors to receive an annual report on the status of the General Plan and progress toward its implementation.

This requirement seeks to avoid the often fragmented and incomplete attention to plan implementation that has characterized the actions of some cities and counties. The most common practices have been to respond to requests for plan amendments and zoning applications, to prepare a capital improvement program, and to undertake special projects as desired.

To assist in the ongoing monitoring of the plan's implementation, Table 5 sets forth a series of objectives by which the success of the plan can be assessed.

Table 4

**Summary Implementation Schedule and Timeframe**  
Dunnigan 1992

Implementation Program	Before Substantial New Development	Within 5 Years	5 to 10 Years	Ongoing
Prepare EIR	√			
Adopt General Plan	√			
Amend Zoning Ordinance and Map	√			
Prepare Fire Department Master Plan	√			
Prepare School District Master Plan	√			
Complete Nitrate Study	√			
Establish Redevelopment Agency		√		
Amend Boundary of CSA 11		√		
Plan for Expanded Garbage Pick-up		√		
Request CalTrans Move or Redesign Rest Stop		√		
Obtain Dedications for Open Space, Park, School Site, Fire Station, Post Office, and Community Center Sites		√		
Develop CIP for Use of Redevelopment Funds		√		
Develop New Park and Trails			√	
Relocate Fire Station and Post Office			√	
Review Projects for Consistency with General Plan and Development Standards				√
Acquire Easements over Private Roads				√

<b>Table 5</b> <b>Summary of Objectives</b> <b>Dunnigan 1992</b>	
<b>Within Five Years</b>	<b>Within Ten Years</b>
Certified EIR	Substantially Completed New Town Center
Adopted General Plan	New Park
Revised Zoning	New Fire Station and Post Office
Modified CSA 11 Boundary	Resolved Nitrate Problem through Community Sewer and/or Water
Redevelopment Agency	
Park Site Dedication	Pedestrian/Bike and Emergency Vehicle Crossings of Dunnigan Creek
School Site Dedication	
Post Office, Fire Station, and Community Center Site Dedication	New Pedestrian/Bike Trails in Dunnigan Creek Open Space
Dunnigan Creek Open Space Dedication	Use of Redevelopment Funds to Improve Roads/Drainage in Hardwood Subdivision  At least 25% of the Workers in New Commercial Development Living in Dunnigan
Completed Nitrate Study	
Program for Community Water and/or Sewer	
Design of First Phase of New Town Center Development	

## VI. Appendices

## **Appendix A**

**{Background and Environmental Setting Report}**

**Printed as a separate Document**



## Appendix B

### ALTERNATIVE EXPANSION AREAS

Several large tracts of land have been considered as alternative expansion areas for Dunnigan, as shown in Figure 14. These areas should be assessed in the environmental impact report for this plan.

#### Alternative Expansion Area A

This area lies west of the existing Hardwood Subdivision, extending not farther than the canal. It would be used primarily for residences, with perhaps some local-serving commercial.

The first argument for siting the major residential development in this area is that it is not prime agricultural land suitable for row crops, whereas the designated expansion area has been cultivated. Alternative A is also adjacent to the Hardwood Subdivision and reasonable connections between the new and existing neighborhoods could be designed. Also, some members of the advisory committee suggested that growth in this location may stimulate construction of a new interchange at Road 3, thereby reducing the traffic congestion at Road 6.

On the other hand, there are several arguments against designating this site for the major residential expansion area. First, it moves the direction of development westward, away from the Old Town and away from the most likely location of new commercial, which is near the Road 6 interchange. The residential expansion area designated in this plan helps maintain a relatively compact town form, by filling in the area between the Hardwood Subdivision and the Old Town. Alternative A does not.

Members of the advisory committee suggested that while Alternative A may not be prime agricultural land suitable for row crops, it can be highly productive farmland if irrigated. They cited examples of orchards farther west on similar soils and terrain.

There are numerous oak trees in Alternative A. Although mitigation may be possible through careful land planning and siting, the impact on this aesthetic and environmental resource is potentially significant.

Lastly, although development in Alternative A is closer to Road 3, it is highly unlikely that such development would stimulate construction of a new interchange by CalTrans. The costs of an interchange would almost certainly have to be borne by the development itself and may be economically infeasible depending on the size of the development allowed, among other factors.

#### Alternative Expansion Area B

This expansion area includes a portion of the area designated for urban reserve south of Road 6 and west of I-5. In effect, including Alternative B as an expansion area would allow a portion of the urban reserve to be developed earlier than the time frame otherwise spelled out in the general plan.

A mix of uses could be appropriate for this area. Certainly, highway-related commercial would find the proximity to the interchange desirable. Residences could be located farther west, away from the freeway. Industrial uses that did not impact the residential area to the north could also be acceptable.

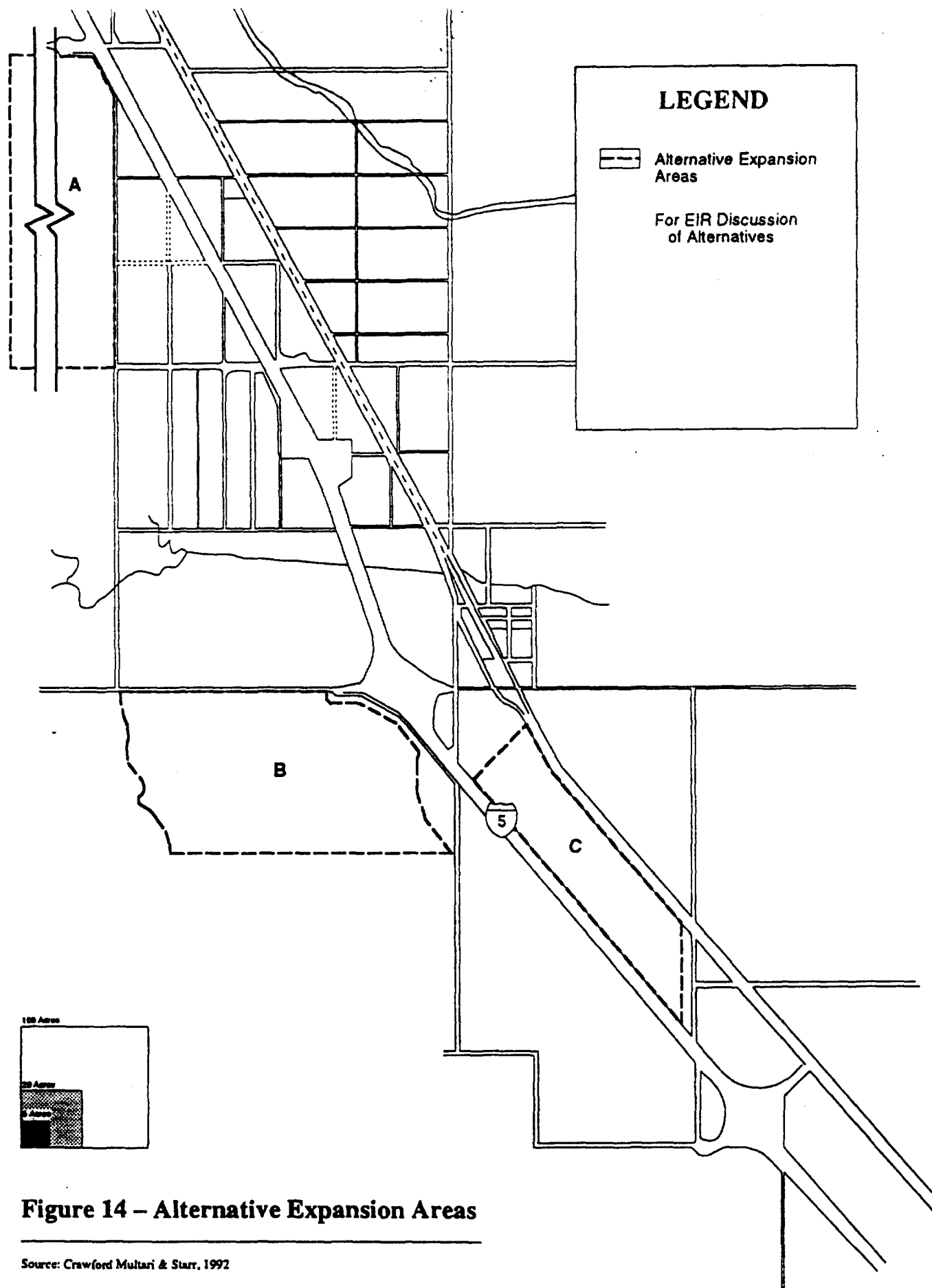
The general plan finds this area suitable for development in the future if a significant proportion of the capacity of the rest of the town is built out. The rationale for holding this in reserve is really twofold: first, the initial residential expansion is better located north of Road 6, tying the Hardwood Subdivision and Old Town together, and 2) there is a substantial amount of commercially designated land designated between Old Town and the freeway. The general plan envisions these areas filling in first, before expanding farther to the south.

#### **Alternative Expansion Area C**

This area is envisioned for more highway-related commercial along the eastern side of the freeway, between Roads 6 and 8. This land is certainly desirable for highway commercial. One additional argument for inclusion of this area is that by spreading the new highway commercial development toward Road 8, traffic can be diverted to both interchanges rather than concentrating on the Road 6 interchange only. Furthermore, from a developer's standpoint, the visibility of the project is enhanced by locating it along the freeway before the main off-ramp accessing the site.

One argument against including this area is that there is more than sufficient highway commercial designated under the plan to serve the foreseeable demand for this kind of development. The general plan shows almost 100 acres of this kind of commercial near the Road 6 interchange alone. This is sufficient to accommodate over 800,000 square feet of retail space.

Members of the advisory committee also suggested that because there was sufficient land designated for this kind of use, further encroachment in agricultural areas was not recommended. Also, several people were concerned about the appearance of "strip" development along the freeway altering the rural, open setting of the town.



**Figure 14 – Alternative Expansion Areas**

Source: Crawford Multari & Starr, 1992

EXHIBIT C

December 17, 1993

Mr. Robert Thompson  
200 Montgomery Building  
1776 K Street, Northwest  
Washington, D.C. 20006

Dear Mr. Thompson,

This letter is to assure you and the FCC that Dunnigan, CA, is a distinct community located in northern Yolo County.

Dunnigan has a history going back to the 1870's when it was first settled. It later became a railroad stop complete with hotel and blacksmith shop.

Today Dunnigan is a unincorporated town of about 750 people. It has increased in size by about 50% in the 20 years that I have lived here. There are 5 churches, 4 gas stations, 2 truck stops and one Dunnigan General Store.

We residents view ourselves as a "community", and several years ago formed the DCAC (Dunnigan Community Advisory Council). The DCAC has been responsible for the rewriting of the community General Plan so that the inevitable community growth will be well thought out. An EIR (environmental impact report) is presently being completed.

I swear or affirm that the foregoing information is true to the best of my information. Executed on December 17, 1993.

Sincerely,

Keith G. Williams  
Chairman, DCAC

SWORN STATEMENT

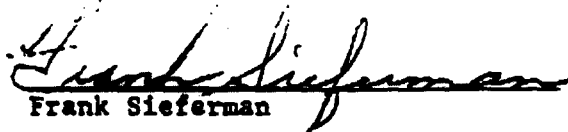
1. My name is Frank Sieferman and I am an elected supervisor for the Fifth District of Yolo County, California.

2. The Town of Dunnigan, California is within the area that I represent on the Yolo County Board of Supervisors. I reside just a few miles from Dunnigan.

3. I am familiar with the draft "Town of Dunnigan General Plan," which was conceptually approved by the Dunnigan General Plan Steering Committee last year. That draft General Plan, which is proposed to supercede a prior plan for Dunnigan, correctly refers to Dunnigan as a well established community.

4. I can assure the FCC that the residents of Dunnigan consider their town as a geographically identifiable place. In short, Dunnigan has long been an established community.

I swear or affirm that the foregoing is true to the best of my information and belief.

  
Frank Sieferman

December 20, 1993

**ENGINEERING EXHIBITS  
IN SUPPORT OF PETITION  
FOR RULE MAKING**

December 16, 1993

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Radio Station KIQS-FM  
KIQS, Inc.  
FM Channel 288B1 □ 105.5 Megahertz  
Dunnigan, California

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LAWRENCE L. MORTON ASSOCIATES  
1231 MESA OAKS LANE  
MESA OAKS, CALIFORNIA 93438-2300  
(805) 733-4275 / FAX (805) 733-4763

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## **EXHIBIT E-1 ENGINEERING STATEMENT**

The information and data contained within these Engineering Exhibits were prepared on behalf of KIQS, Inc., licensee of FM broadcast station KIQS-FM, 105.5 Megahertz, Channel 288A, in support of a petition for rule making. The petitioner proposes to amend the FM Table of Allotments, CFR § 73.202(b) of the Commission's Rules, by substituting Channel 288B1 for Channel 288A and changing the principal community from Willows to Dunnigan, California. The petitioner also requests that the KIQS-FM authorization be changed to specify operation on the Class B1 channel at Dunnigan.

### **I. DUNNIGAN, CALIFORNIA**

The town of Dunnigan is located in north Yolo County in the central portion of the State of California. Currently, Dunnigan has no aural broadcast service.

The United States Geological Survey centroid geographical coordinates of Dunnigan are:

North Latitude: 38 degrees, 53 minutes, 07 seconds  
West Longitude: 121 degrees, 58 minutes, 07 seconds

Dunnigan, with a population of approximately 700 residents, is in a state of growth according to the Yolo County Planning Department. Within a 5-kilometer radius of the center of Dunnigan there is a population of 730 persons, and 1,044 persons reside within a 10-kilometers radius.

### **II. IMPROVEMENT TO SERVICE AREA OF KIQS-FM**

The proposed allotment of Channel 288B1 at Dunnigan, California, requires a site restriction of 7.29 kilometers northeast of the center of Dunnigan to avoid a short-spacing with first adjacent channel Class B station KITS(FM), licensed to San Francisco, California. The petitioner has identified a hypothetical transmitter site that complies with the Commission's spacing requirements. The geographical coordinates of this reference site are:

North Latitude: 38 degrees, 55 minutes, 34 seconds  
West Longitude: 121 degrees, 54 minutes, 10 seconds

From such a site, it is possible to place a requisite 70 dB $\mu$  or greater signal strength across Dunnigan in compliance with §73.315(a).



KIQS-FM, BMLH-931202KH, operates on Channel 288A with an effective radiated power ("ERP") of 6.0 kW and an antenna height above average terrain ("HAAT") of 37 meters. The KIQS-FM 60 dB $\mu$  F(50,50) service contour encompasses a land area of 1,048 square kilometers containing a 1990 Census population of 10,542. The BMLH-931202KH service area is shown cartographically in exhibit E-4 and the demographics of the 1990 Census population within the contour are shown in exhibit E-6.

By granting this petition and permitting KIQS-FM to upgrade to Channel 288B1 at the proposed reference site, the Commission would enable the petitioner to increase substantially the service area of KIQS-FM. The predicted 60 dB $\mu$  contour would encompass a land area of 4,754 square kilometers containing a 1990 Census population of 161,280 persons. These equate to increases of nearly 354 and 1430 percent in land area and population, respectively. These population figures are based on results of the 1990 U.S. Census evaluated at the block level. The 60 dB $\mu$  service contour from the hypothetical fully spaced Class B1 facility is shown in exhibit E-5 and the 1990 Census demographics for the population within the contour are tabulated in exhibit E-7.

### **III. ALTERNATE CHANNELS AT WILLOWS**

A study was undertaken to determine whether any other Class A channels could be allotted to Willows should an expression of interest be received. The results of the study showed that at least two other Class A channels, 272A and 292A, could be allotted to Willows with slight site restrictions.

A similar study was performed for Dunnigan to assess the possibility of an alternate Class B1 channel being available for the community. Channel 288B1 is the only channel that can be allotted to Dunnigan and that complies with the city grade requirement of § 73.315(a), based on the 70 dB $\mu$  service contour radius and site restrictions for a Class B1 facility.

Therefore, the proposed Channel 288B1 allotment to Dunnigan and the removal of Channel 288A at Willows is the only possible allocation scheme that will establish a first aural broadcast service to the community of Dunnigan.

### **IV. MINIMUM SPACING REQUIREMENTS**

The following table shows a listing of the nearest licensed facilities and allocations currently on file with the required distance separations for Channels 288B1. For clarity, facilities that are greater than 300 kilometers beyond the minimum required separations are not shown.

As required by §73.207 all minimum distance separation requirements are met from the hypothetical reference site. All distances were computed by the methods outlined in §73.208(c) of the Commission's Rules and were rounded to the nearest kilometer in accordance with §73.208(c)(8).